

REMARKS

Claims 5 and 8 are pending in this application.

I. Rejection Under 35 U.S.C. §103

The Office Action rejects claims 5 and 8 under 35 U.S.C. §103(a) as having been obvious over U.S. Patent Application Publication No. 2003/0207979 to Sato et al. ("Sato") in view of U.S. Patent Application Publication No. 2002/0013393 to Lewin ("Lewin") and U.S. Patent Application Publication No. 2003/0207106 to Nakamura et al. ("Nakamura").

Applicants respectfully traverse the rejection.

Claims 5 and 8 are each directed to a wiring harness comprising a wire bundle that comprises non-halogenous insulated wires. The non-halogenous insulated wires each comprise a conductor covered with a crosslinked flame-retardant resin composition. The crosslinked flame-retardant resin composition comprises zinc sulfide, among other things. The claimed wiring harnesses comprising the recited crosslinked flame-retardant resin composition produce unexpected results, demonstrating that the claimed wiring harnesses would not have been obvious.

Specifically, non-halogenous insulated wires that use the recited crosslinked flame-retardant resin composition comprising zinc sulfide are compatible with vinyl chloride insulated wires, which compatibility is completely unexpected over the teachings of Sato, Lewin, and Nakamura. Applicants provided a detailed explanation of such unexpected results in the April 5, 2010 Amendment After Final Rejection.

In short, Example 6 is a flame-retardant resin composition that is comparable to the flame-retardant resin compositions of Comparative Examples 15-17, except that Example 6 comprises zinc sulfide and Comparative Examples 15-17 comprise other zinc compounds. See specification at page 33, Table 1, and page 36, Table 4. Specifically, Comparative Example 15 comprises zinc oxide, Comparative Example 16 comprises zinc acrylate, and

Comparative Example 17 comprises zinc borate. See specification at page 36, Table 4. Example 6 passed both compatibility test conditions A and B whereas Comparative Examples 15-17 failed both compatibility test conditions A and B. See specification at page 33, Table 1, and page 36, Table 4. Thus, the experimental results demonstrate that Example 6 has much better compatibility than Comparative Examples 15-17. See specification at page 38, lines 13-15. This superior compatibility is completed unexpected over the teachings of Sato, Lewin, and Nakamura for at least the reasons discussed in Applicants' April 5, 2010 Amendment After Final Rejection.

With respect to the unexpected results, the Advisory Action asserts that the experimental evidence is insufficient because the Advisory Action alleges that a comparison of Example 6 to Comparative Examples 15-17 is not a proper side-by-side comparison. See pages 2-3. Specifically, the Advisory Action asserts that the experimental evidence is not a proper comparison because (1) Example 6 comprises EVA that is unmodified whereas Comparative Examples 15-17 comprise a mixture of unmodified and modified EVA, (2) Example 6 comprises 0.3 parts acryl silane and 0.5 parts phosphorous antioxidant whereas Comparative Examples 15-17 do not, and (3) Example 6 comprises less phenolic antioxidant and cross-linking auxiliary agent than Comparative Examples 15-17. Id.

However, the differences between Example 6 and Comparative Examples 15-17 pointed out by the Advisory Action would not have any material effect on the respective compatibilities yielded by the flame-retardant resin compositions of Example 6 and Comparative Examples 15-17 and this would have been recognized by an ordinarily skilled artisan. Additionally, there is no requirement (by law or rule) that Applicants submit experimental evidence to establish nonobviousness that is a perfect side-by-side comparison. Instead, Applicants are only required to present evidence that is sufficient to rebut a *prima facie* case of obviousness. See MPEP §716.02(e). The persuasive value of such experimental

evidence should be evaluated from the viewpoint of an ordinarily skilled artisan. See MPEP §2145. Here, an ordinarily skilled artisan would understand that the comparison of Example 6 and Comparative Examples 15-17 conclusively demonstrates that the claimed wiring harnesses comprising the recited crosslinked flame-retardant resin composition produce unexpected results because the differences the Advisory Action points to have no effect on compatibility.

With respect to Example 6 comprising EVA that is unmodified whereas Comparative Examples 15-17 comprise a mixture of unmodified and modified EVA, an ordinarily skilled artisan would have understood that the modification of EVA mainly has an effect on the mechanical properties of the composition, such as wear resistance, and would not have had any material effect on compatibility.

With respect to Example 6 comprising 0.3 parts acryl silane whereas Comparative Examples 15-17 do not, an ordinarily skilled artisan would have understood that the amount of acryl silane has an effect on wear resistance and bleeding, and would not have had any material effect on compatibility. With respect to Example 6 comprising 0.5 parts phosphorous antioxidant (whereas Comparative Examples 15-17 do not) and comprising less phenolic antioxidant and cross-linking auxiliary agent (than Comparative Examples 15-17), an ordinarily skilled artisan would have understood that phosphorous antioxidant, phenolic antioxidant, and cross-linking agent are all additives that have no effect on compatibility.

Instead, as discussed in the specification, it is the type of polyethylene and the zinc compound that have an effect on the compatibility produced by a crosslinked flame-retardant resin composition. See page 18, lines 7-14 ("In particular, compatibility, one of the important properties of the composition, is exerted by using (A) the polyethylene specified by the specific melt flow rate (MFR) and the specific density and (D) the zinc compound, preferably zinc sulfide."). Example 6 and Comparative Examples 15-17 use the same high-density

polyethylene (HDPE) in significantly the same amount. Thus, the difference in compatibility between Example 6 and Comparative Examples 15-17 is solely due to the flame-retardant resin composition of Example 6 comprising zinc sulfide and Comparative Examples 15-17 comprising other zinc compounds.

The Advisory Action also asserts that the experimental evidence is not commensurate in scope with the claims because the claims recite a generic metallic hydrate and organo-functional coupling agent whereas Example 6 comprises a specific metallic hydrate (magnesium hydroxide) and coupling agent (acryl silane). See pages 3-4. However, magnesium hydroxide and acryl silane are exemplary of the whole class of metallic hydrates and organo-functional coupling agents, respectively, and, thus, the experimental evidence is commensurate in scope with the claims.

An ordinarily skilled artisan would have understood that metallic hydrates have an effect on flame retardancy and coupling agents have an effect on wear resistance and bleeding. Neither the specific metallic hydrate nor the specific coupling agent would have any material effect on compatibility. See specification at page 18, lines 16-21. Instead, an ordinarily skilled artisan would have understood that other metallic hydrates could be readily interchanged for magnesium hydroxide and other coupling agents could be readily interchanged for acryl silane with no effect on compatibility. Thus, the experimental evidence is commensurate in scope with the claims because an ordinarily skilled artisan would have understood that magnesium hydroxide and acryl silane are representative (exemplary) of numerous other metallic hydrates and coupling agents, respectively, that could be used in the composition of Example 6. See MPEP §2145 (stating that "an exemplary showing may be sufficient to establish a reasonable correlation between the showing and the entire scope of the claim, when viewed by a skilled artisan")

Further, the Advisory Action asserts that Applicants must establish unexpected results over the entirety of the respective range recited for each of zinc sulfide (1-20 parts), the organo-functional coupling agent (0.3-10 parts), and the metallic hydrate (30-250 parts). See page 4. However, the Advisory Action misapplies the law. Applicants only must establish unexpected results for the entirety of a range when it is necessary to establish that the range is critical or otherwise is essential to distinguish an invention from the art. See MPEP §716.02(d). Here, Applicants demonstrate that zinc sulfide, as compared to other zinc compounds, imparts the claimed wiring harnesses comprising the recited crosslinked flame-retardant resin composition with superior compatibility. There is no requirement that the proffered evidence is directed to the ranges recited for zinc sulfide, the organo-functional coupling agent, and the metallic hydrate unless there is some teaching in the art that would suggest that such results would not occur over the entire range recited in the claims. See MPEP §2145 ("When considering whether proffered evidence is commensurate in scope with the claimed invention, Office personnel should not require the applicant to show unexpected results over the entire range of properties possessed by a chemical compound or composition."). For at least these reasons, Applicants have made a showing commensurate in scope with the claims that the claimed wiring harnesses comprising the recited crosslinked flame-retardant resin composition produce unexpected results.

Accordingly, the applied references would not have rendered obvious claims 5 and 8. Reconsideration and withdrawal of the rejection are respectfully requested.

II. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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Attachments:

Petition for Extension of Time
Request for Continued Examination

Date: June 4, 2010

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